

# DESCRIPTIONS OF SOME NEW SPECIES OF MARINE MOLLUSCA FROM SOUTH AUSTRALIA AND VICTORIA.

By PROFESSOR RALPH TATE, F.L.S., F.G.S.

[Read October 2nd, 1888.]

## PLATE XI.

*Teredo fragilis*, *spec. nov.* Plate xi., figs. 13a—13c.

Tube fragile, slender, simple, constricted at frequent intervals, but not septated internally; siphonal end incompletely divided lengthwise. The shell offers no distinctive character.

Animal with united siphons, furnished with two small shelly clavate pallets, the stalk much attenuated, the enlarged somewhat compressed upper portion crowned with a cartilaginous crust, which has a projecting horn at each end.

*Dimensions*.—Length, 65; diameter of circular aperture, 4.25 millimetres.

*Locality*.—Burrowing with the grain of the wood of the wharf-piles at Port Adelaide.

*Coelodon patulus*, *spec. nov.* Plate xi., fig. 1.

Shell thin, pellucid-white, compressed, inequilateral, inequivalve; right valve slightly convex, left valve flat in the dorsal region, concave ventrally. Anterior side short, subacutely rounded; posterior side prolonged, patulously extended ventrally, truncated. Post-dorsal line nearly straight, or slightly incurved, bounded by a slightly depressed linear-lanceolate area. Umbo depressed, rather acute, situated in the anterior one-fifth. Surface distinctly concentrically wrinkled.

*Dimensions*.—Antero-posterior diameter, 16.5; dorso-ventral diameter, 9.5; sectional diameter of both valves, 1 millimetre.

*Localities*.—Dredged in life from 10 fathoms at Wool Bay, St. Vincent Gulf (McDougall and Matthews); dead shells dredged from deep water, Investigator Straits (South Australian Museum).

If *Pandora trilineata*, Reeve, from Ceylon, be a *Coelodon*, the present shell may have to be referred to it, as the only external differential characters are a slightly different shape (a straighter hinge line and a more acute posterior margin) and the absence of a nodulose dorsal rib.

*Mactra Matthews*, *spec. nov.* Plate xi., fig. 4.

Shell ovately trigonal, nearly equilateral, subtruncated behind, obtusely rounded in front. The post-dorsal margin is straight

and somewhat sloping, the antero-dorsal one is slightly incurved; the ventral margin is nearly straight, but slightly insinuate posteriorly. The umbo is small and acute.

The shell is thin, concentrically coarsely striated or folded; the colour is yellowish, whitish, or pink, usually varied with brown rays, those at each extremity are broader and more frequently present.

*Dimensions*.—Antero-posterior diameter, 18; umbo-ventral diameter, 11·5; sectional diameter of united valves, six millimetres.

*Locality*.—Common on the beach at Royston Head (*Matthews*).

This species must not be confounded with *M. Jacksoniensis*, from which is distinguished by its coarse ornament, less arched ventral margin, its blunt posterior margin, the less defined post-dorsal area and the equilaterality. From *M. pusilla*, A. Adams, it differs by not being acuminate at both ends.

*Raeta meridionalis*, *spec. nov.* Plate xi, fig. 3.

Shell whitish, very thin, translucent; ovately-suboblong, moderately convex antemedially, posteriorly gaping; umbo subacute, curved forward, situated in the anterior three-sevenths.

Anterior margin regularly rounded, ventral margin strongly arched; dorsal line sloping on both sides, more so in front than behind; posterior side narrowed and depressed, its margin somewhat squarely truncated and slightly reflected. There is an ill-defined depressed post-dorsal area, but no umbonal ridge.

Sinus widely rounded, horizontal, reaching to the centre, visible on the exterior.

Surface marked by fine lines of growth, which become more conspicuous and finely wavy wrinkled on the post-dorsal area,

*Dimensions*.—Antero-posterior diameter, 35; umbo-ventral diameter, 30; sectional diameter of left valve, eight millimetres.

*Locality*.—One valve collected by Mr. Magarey on the beach of Aldinga Bay.

*Venerupis iridescens*, *spec. nov.* Plate xi, fig. 10.

Shell rhomboidal, subdepressed; post-dorsal line straight; anterior side very short and narrow, slightly concave in front of the depressed acute umbo; posterior side long, expanded, squarely truncated at its margin, but rounded off post-ventrally; there is no defined umbonal ridge; ventral margin having a slight outward curve in its posterior half, thence rapidly ascending to the roundly attenuated front; umbo in about the anterior third.

Colour dirty white, iridescent, with a few spots of reddish brown. Ornament of concentric laminae (about 15 conspicuous ones), and three or four concentric rounded threads in the inter-

spaces; the interstitial line and the umbonal aspect of the laminae are crossed by fine, close striae. The laminae are erect, short, with an acute, slightly and irregularly broken edge.

*Dimensions*.—Antero-posterior diameter, 14·5; umbo-ventral diameter, 9·5; sectional diameter of united valves, 6 millimetres.

*Locality*.—One fresh specimen dredged in deep water off Kangaroo Island, Spencer Gulf (S. Aust. Mus.).

The only species having concentric striate ornament between the lamellae, and without radial riblets are *V. tumida*, Sow., and *V. interstriata*, Sow.; the former shell is ventricose, and both are very finely striated between the lamellae, whilst the present species is depressed, and the interstitial ornament consists of round threads, other less striking differences can be pointed out.

*Cardium erugatum*, *spec. nov.* Plate xi., fig. 6.

Shell obliquely subquadrate, about as long as high; narrowed and rounded in front, broadish and curvedly truncate behind; inequilateral, moderately convex, pure white, and ornamented with about 25 flat ribs, much broader than the furrows. The medial ribs are wider than the anterior or posterior ones; the anterior ribs bear close, transverse, compressed scales.

*Dimensions*.—Antero-posterior diameter, 13; umbo-ventral diameter, 12·5; sectional diameter, 7 millimetres.

*Locality*.—A few single valves cast up at Royston Head, Southern Yorke Peninsula (G. F. Matthews).

This species seems to resemble *C. Dionorum*, Sowerby, but it has not the spinosely dentated ribs of that shell.

*Carditella subradiata*, *spec. nov.* Plate xi., fig. 7.

Shell minute, ovately trigonal, inequilateral, moderately convex; umbo large, antemedian; anterior side rounded, a little incurved in front of the umbo; ventrally rounded; posterior side a little produced, the post-dorsal slope nearly straight, inclined at an acute angle. Inner margin of valves distantly and deeply crenulated.

Surface smooth, shining, radially faintly ribbed, and concentrically coarsely striated. The ribs are about 15 in number, depressed, wider than the interspaces.

*Dimensions*.—Antero-posterior diameter, 3·5; umbo-ventral diameter, 3·5 millimetres.

*Locality*.—Shell sand, Royston Head.

This new species most resembles *C. radiata*, from the Eocene beds of the Adelaide district, but is inequilateral, and has an inflated umbo. It is more triangular than *C. infans* with fewer inornate ribs.

**Kellia rostellata**, *spec. nov.* Plate xi., fig. 14.

Shell minute, rather thin, semi-translucent, broadly heart-shaped, a little longer than high, inequilateral and moderately convex.

The dorsal margin is oblique on both sides, longer behind than in front, and excavated in front of the beaks. The ventral margin is rounded and curves upwards to the narrow and subrostrated anterior margin. The umbos are prominent, rather obtuse at the apex, approximate, not curved in front, and situated well in advance of the middle line.

The surface is finely and closely concentrically striated; the colour is yellowish-horn, umbos and hinge-line brown with a vertical ray of the same colour increasing in breadth from the umbo to the ventral margin.

*Dimensions*.—Antero-posterior diameter, about 2·5; umbo-ventral diameter, 2; sectional diameter of united valves, 2 millimetres.

*Locality*.—Dredged in life, seven to nine fathoms, attached to seaweed, Port Phillip Heads, Victoria (*J. B. Wilson*).

This species has a general resemblance to *Lasaea rubra*; but apart from the difference of dentition, it is distinguished by its subrostrated anterior side.

**Montacuta semiradiata**, *spec. nov.* Plate xl., fig. 2.

Shell minute, transversely ovate, moderately convex; umbos antemedian, thick and rounded; anterior and posterior margins rounded, ventral margin slightly curved outwards, posterior slope gently descending.

Surface smooth, shining, of a chocolate-brown colour, more or less translucent-white medially, with a few distant angular threads, appearing as pellucid rays, radiating from the umbo to the posterior half of the ventral margin.

*Dimensions*.—Antero-posterior diameter, 2; umbo-ventral diameter, 1·5.

*Locality*.—Parasitic on *Echinocardium*, east of Mud Island, Port Phillip, in seven to ten fathoms (*J. B. Wilson*).

**Ehippodonta**, *gen. nov.*

Name in allusion to the cardinal teeth riding as it were one on the other by their tips, and not interlocking.

*Types*.—*Scintilla lunata*, *Tate*, and *Ehippodonta McDougalli*, *spec. nov.*

Shell like *Galeomma*, flexible in life but brittle when dry, with two cardinal teeth in each valve, which are more or less bifid at their summits and opposed to each other and not alternating; a large cartilage is wedged in between the teeth, and the dorsal margin is internally thickened.

The animal has the mantle lobes free all round to the dorsal line; in life the anterior margins of the lobes are largely expanded in a funnel form. The foot is somewhat disk shaped, very voluminous, and constitutes a broad locomotory surface.

This genus is separable from *Galeomma* and *Scintilla* by possessing two cardinal teeth in each valve, which are in apposition. The free mantle-lobes distinguish it further from *Galeomma*; the animal of *Scintilla* appears to be undescribed.

The animal of both species of *Ephippodonta* has the creeping habit of *Galeomma*, the valves are flexible and spread out flat when the animal is in motion; indeed, while in life the valves cannot be brought to a less angle of divergence than about 70 degrees.

Both species live on the mud-formed burrows of a shrimp, sheltering beneath large stones between tide-marks at Edithburg, Yorke Peninsula, South Australia.

*Ephippodonta* McDougalli, *spec. nov.* Plate xi., figs. 5a—5b.

Shell small, with each valve approximately semicircular in outline, subequilateral, flat, yellowish-white, dull.

Umbo inconspicuous. Surface of the valves with numerous compressed slender ridges, radiating from the umbo, about 21 principal ones regularly disposed with one or two smaller ones interposed, all bearing papillary scales; the margin of the valves with about 60 equal and equidistant square and deep crenatures.

*Dimensions*.—Length of dorsal line, 10; umbo-ventral diameter, 6 millimetres.

*Locality*.—Edithburg, St. Vincent Gulf (*McDougall*).

This species differs from its congener by its inconspicuous umbo, by its conspicuous radial ribs, the indented free margin of the valves, and more regular outline.

*Voluta* Adcocki, *spec. nov.* Plate xi., fig. 8.

Shell oval-fusiform, spire moderately elongated terminated by a papillary pullus; whorls with a row of transversely elongate tubercles on the periphery (about 11 to a whorl). Aperture oval-elongate; outer lip thickened internally, but bevelled off to a thin edge, not reflected; columella with four oblique plaits increasing in size from the front backwards.

Colour yellowish-white with undulate, narrow, chestnut, transverse lines—the depth of the plication of the colour lines being intermediate between *V. Angasi*, Tate, and *V. undulata*, Lamarck; on the last whorl are two somewhat narrow chestnut spiral bands, one in front of the row of nodulations and in an alignment with the posterior angle of the aperture, the other about midway to the front on the dorsal aspect.



*Dimensions*.—Of the small example of 5 whorls—total length 41, of aperture 31; width of last whorl, 19 millimetres. Of the larger example—total length by estimate, 53; of aperture, 40; width of last whorl, 25 millimetres.

*Locality*.—One example, cast up at Middleton (*Mr Adcock*); the species previously known to Mr. Bednall by an example without locality in the South Australian Museum.

This species has the general aspect of *V. Pacifica*, *V. Kreusleræ*, and *V. Thatcheri*, and, like them, has peripheral nodulations; in the arrangement of the colour lines it combines the characteristics of *V. Bednalli*, A. Brazier, and *V. Angasi*, Tate. It is a much wider shell with a shorter spire than either *V. Kreusleræ* or *V. Thatcheri*, and specially differs from *V. Pacifica* by its narrow aperture, not widening anteriorly as in that species.

*Stylifer brunneus*, *spec. nov.* Plate xi., fig. 9.

Shell subglobose; spire short, acuminate produced; apex cylindrical, styliform; the other whorls are convex, of moderate increase, slightly depressed at the posterior suture; sutures linear. Last whorl large, faintly angulated at the base and depressed at the suture, and in consequence having a perceptibly subquadrate outline.

Outer lip thin, regularly curved, acutely angled posteriorly; columella thin, slightly elevated, defined by a superficial groove behind.

Colour dark brown, shining, black-brown around the suture, marked with microscopic crowded obliquely transverse lines and with distant spiral lines.

Animal with a large expanded disk-like mantle.

*Dimensions*.—Length, 5; breadth, 3.5 millimetres.

*Locality*.—Parasitic on *Strongylocentrotus*, invariably on the periproct, in eight to ten fathoms, Capel Sound, Port Phillip (*J. B. Wilson*).

This new species resembles in its squat shape *S. Turtoni*, *S. astericola*, *S. ovoideus*, and *S. dubia*; but it has not the insinuated outer lip, obtusely-angled posteriorly, of those species. In its regular curved outer lip and general shape it agrees with *S. Stimpsoni*, Verrill, and *S. Orbignyianus*, Hupe; but the more rapidly enlarging whorls and subquadrate last whorl distinguish it from them.

*Umbrella corticalis*, *spec. nov.* Plate xi., fig. 11.

Shell orbicular in outline, moderately elevated, with the apex prominent, somewhat incurved, and a little excentric; covered, except apex, with a well developed epidermis, which extends about half as far again as the shell. The epidermis is raised into about 20 broad rays, diverging from the apex, and is concentric-

cally lamellose. It is pellucid white, but encircled with a band of maroon colour, corresponding with the edge of the shell; it is very tough, and can be readily removed in one piece.

The shell is of a primrose-yellow colour, thin, concentrically striated, and with a few obscure radial ridges.

The animal is of a deep port-wine colour; the foot is circular in outline, with an extended margin; the underside of the mantle is covered with small white carunculæ.

*Dimensions*.—Transverse diameters, 19 and 15; height, 4 millimetres.

*Localities*.—Lower end of the South Channel of Port Phillip, seven to sixteen fathoms, sand and weed (*J. B. Wilson*). It has also been collected more than once in St. Vincent Gulf.

*Lobiger Wilsoni*, *spec. nov.* Plate xi., fig. 12.

Animal with the body produced into a very narrow, pointed, smooth tail of a green colour, shortly extended beyond the shell. Foot with two oblong-rounded and pale-green lobes, which are somewhat attenuated into a broadish stalk.

Shell thin, flexible, straw-yellow; spire rudimentary but involute. Somewhat pyriform, slightly attenuated in front, and truncated apically; aperture narrow-ovate, truncate behind. Surface finely striated. Length, 8; width, 5 millimetres.

*Locality*.—Lower end of South Channel of Port Phillip, seven to sixteen fathoms (*J. B. Wilson*).

#### EXPLANATION OF PLATE XI.

1. *Ceclodon patulus*, *Tate*. Enlarged.
2. *Montacuta semiradiata*, *Tate*. Much enlarged.
3. *Raeta meridionalis*, *Tate*. Natural size.
4. *Mactra Matthewsii*, *Tate*. Slightly enlarged.
5. *Ephippodonta McDougalli*, *Tate*. *a*, Shell enlarged; *b*, the valves laid opened to display cardinal teeth and cartilage, much enlarged.
6. *Cardium erugatum*, *Tate*. Slightly enlarged.
7. *Carditella subradiata*, *Tate*. Much enlarged.
8. *Voluta Adcocki*, *Tate*. Natural size.
9. *Stylifer brunneus*, *Tate*. Enlarged.
10. *Venerupis iridescens*, *Tate*. Slightly enlarged.
11. *Umbrella corticalis*, *Tate*. Natural size.
12. *Lobiger Wilsoni*, *Tate*. Enlarged.
13. *Teredo fragilis*, *Tate*. *a*, Tube, natural size; *b*, a pallet much enlarged; *c*, siphonal orifice of tube, enlarged.
14. *Kellia rostellata*, *Tate*. Much enlarged.